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EXAMINER

MEW, KEVIN D

ART UNIT

PAPER NUMBER

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9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/658,796

Applicant(s)

ARTRU ET AL.

Examiner

Kevin Mew

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Final Action

Response to Amendment

1. Applicant's arguments filed on May 10, 2004 regarding claims 1, 2, 4, 6-7, 12-13, 15, 20, 23 in the previous Office Action have been fully considered and are currently pending. Claims 20-24 have been renumbered as claims 19-23, respectively, by the Applicant.
2. Acknowledgement is made of the amended claims received regarding the claim objections to claims 1, 3, 10, 11, 17, 18, 20-24. The objections to these claims are now withdrawn.
3. Acknowledgement is made of the amended claims received regarding the 35 U.S.C. §112 rejection to claims 3 and 10. The amended claims are acceptable. The 35 U.S.C. §112 rejection to these claims are now withdrawn.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claims 1, 5, 8-9, 11, 14, 17-18, 22-23** are rejected under 35 U.S.C. 102(e) as being anticipated by Curry et al. (US Patent 6,359,880).

Regarding claims 1, 11, 17-18, Curry discloses a communication network for private or limited public wireless telephone communication (**a telephony communications arrangement**, see lines 10-11, col. 1), comprising:

a localized wireless gateway system (internet-based private branch exchange, see element 5, Figure 2), including a PBX (see element 65, Figure 2), which provides at least the interexchange portion of telephone calls for wireless handsets (**the internet-based private branch exchange adapted to communicate to a remote location**, see lines 20-22 and 27-28, col. 5) utilizing a public packet switched data network such as the Internet (**a unique internet-based private branch exchange, over a first communications path using packet-based communications**, see lines 11-14, col. 1), said PBX provides two or more BRI line circuits (**a programmable processor circuit**) to packet service gateway within the wireless gateway system (**control a server at the internet-based private branch exchange**, see element 69, Figure 2) for voice and signaling relating to telephone

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calls that will go to or come in from the Internet (**a first communications path**, see lines 60-63, col. 11);

a plurality of wireless handsets and local landline telephones (**a plurality of packet-communicating endpoint devices**, see element 1, Figure 2) communicate with the PBX of the wireless gateway system (**each of which is adapted to communicate with the internet-based private branch exchange**, see lines 27-28, col. 5 and elements 5, 65, Figure 2) over a second communications path comprising the wireless air interface, the base stations, and the radio port control units (RPCU) or a second communications path comprising local landline telephones (**over a second communications path**, see elements 3, 61, Figure 2), which is coupled to the Internet via the packet service gateway (**a second communications path which is directly communicatively coupled to the first communications path**, see element 31, Figure 2);

said second communications path is also coupled to domain name server (DNS), PSTN gateway and credit card server (**the second communications path is also communicatively coupled to a plurality of other packet-based servers**, see elements 35, 45, 51, Figure 1) via the Internet (see element 31, Figure 1);

a wireless handset (**packet-communicating endpoint device**, see element 1, Figures 1 and 2; please refer to the response to arguments for explanation on why a wireless handset is a packet-communicating endpoint device), a called party, receives a call from a calling PC (see lines 45-47, col. 20) would result in the handset's home location register (HLR) in the database (see element 33, Figure 1) to be accessed according to the handset's routing control record stored in the domain name server system (**configured and arranged to automatically locate**, see element 51, Figure 1),

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said HLR identifies the wireless gateway system (**establish communication with the unique internet-based private branch exchange from the plurality of other packet-based servers**, see lines 14-15, col. 21) and accesses the wireless gateway system's data tables to determine the access manager (see element 67, Figure 2) with which the called party's handset is currently registered;

the access manager checks its data files to determine which registration zone the called handset is currently registered in and sends a broadcast request through the PBX to the RPCU servicing that registration zone and the RPCU broadcasts a paging signal requesting an answer from the identified handset and the handset responds to the page (**endpoint communicating device is configured and arranged to automatically locate and establish communication with the unique internet-based private exchange branch for establishing packet-based communications between packet-based communicating endpoint device and the internet-based private branch exchange**, see lines 20-28, col. 21 and Figure 2; please refer to the response to arguments for explanation on why a BRI line supports packet-based communications).

Regarding claims 5, 8, 9, 14 & 21, Curry discloses that when a person uses a PC to initiate a communication to a called party (**one of the servers**) using a name address, the PC transmits a name translation query to the domain name server (**adapted to execute a program that causes the packet-communicating endpoint device to search for one of the servers**, see element 51, Figure 1) via the appropriate access server and the internet. In response, the domain name server may execute a direct look-up translation table based translation to an IP address and conditional analysis (see lines 44-

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57, col. 9) for voice communication. Curry further discloses one form of conditional analysis (**search for one of the servers using a selected one of a plurality of search processes**) involves having the domain name server check a home location register to determine which of several possible locations to route a call to in order to reach the called destination (**manifests an acceptable routing path to establish packet-based communication, acceptable routing path is defined in terms of geographical location of one of the servers**, see lines 65-67, col. 9, and line 1, col. 10).

Regarding claim 22, Curry discloses a communication network for private or limited public wireless telephone communication (**a telephony communications arrangement**, see lines 10-11, col. 1), comprising:

a localized wireless gateway system (**internet-based private branch exchange**, see element 5, Figure 2), including a PBX (see element 65, Figure 2), which provides at least the interexchange portion of telephone calls for wireless handsets (**the internet-based private branch exchange adapted to communicate to a remote location**, see lines 20-22 and 27-28, col. 5) utilizing a public packet switched data network such as the Internet (**a unique internet-based private branch exchange, over a first communications path using packet-based communications**, see lines 11-14, col. 1), said PBX provides two or more BRI line circuits (**a programmable processor circuit**) to packet service gateway within the wireless gateway system (**control a server at the internet-based private branch exchange**, see element 69, Figure 2) for voice and signaling relating to telephone calls that will go to or come in from the Internet (**a first communications path**, see lines 60-63, col. 11);

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a plurality of wireless handsets and local landline telephones (**a plurality of packet-communicating endpoint devices**, see elements 1, 9, Figure 2) communicate with the PBX of the wireless gateway system (**each of which is adapted to communicate with the internet-based private branch exchange**, see lines 27-28, col. 5 and elements 5, 65, Figure 2) over a second communications path comprising the wireless air interface, the base stations, and the radio port control units (RPCU) or a second communications path comprising local landline telephones (**over a second communications path**, see elements 3, 9, 61, Figure 2), which is coupled to the Internet via the packet service gateway (**a second communications path which is directly communicatively coupled to the first communications path**, see element 31, Figure 2);

said second communications path is also coupled to domain name server (DNS), PSTN gateway and credit card server (**the second communications path is also communicatively coupled to a plurality of other packet-based servers**, see elements 35, 45, 51, Figure 1) via the Internet (see element 31, Figure 1);

a wireless handset (packet-communicating endpoint device, see element 1, Figures 1 and 2), a called party, receives a call from a calling PC (see lines 45-47, col. 20) would result in the handset's home location register (HLR) in the database (see element 33, Figure 1) to be accessed according to the handset's routing control record stored in the domain name server system (**configured and arranged to automatically locate**, see element 51, Figure 1), said HLR identifies the wireless gateway system (**establish communication with the unique internet-based private branch exchange from the plurality of other packet-based servers**, see lines 14-15, col. 21) and accesses

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the wireless gateway system's data tables to determine the access manager (see element 67, Figure 2) with which the called party's handset is currently registered;

the access manager checks its data files to determine which registration zone the called handset is currently registered in and sends a broadcast request through the PBX to the RPCU servicing that registration zone and the RPCU broadcasts a paging signal requesting an answer from the identified handset and the handset responds to the page **(endpoint communicating device is configured and arranged to automatically locate and establish communication with the unique internet-based private exchange branch for establishing packet-based communications between packet-based communicating endpoint device and the internet-based private branch exchange, see lines 20-28, col. 21 and Figure 2).**

Curry further discloses that when a person initiates an outgoing communication from a handset to a destination, that is intended to route through the internet, the wireless gateway system **(internet-based private branch exchange, see element 31, Figure 1)** would formulate and transmit the query to the domain name server where the server replies the destination IP address and any associated information to the handset (each of the packet-communicating end-point devices is further adapted to store an IP address, to store a unique code that identifies internet-based private branch exchange relative to the plurality of other packet-based servers, see lines 24-32, 44-57, col. 9 and lines 7-15, col. 10). Curry further discloses that the identification of the handset would be sent to the PBX as a service request **(automatic location includes broadcasting its identity, see lines 40-43, col. 17).** In addition, Curry discloses the access manager in the wireless gateway system (internet-based PBX) checks the service profile stored in the visitor

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location register assigned to the handset and instructs the RPCU to connect the radio channel currently allocated to the calling handset to a specific ISDN channel and completes the call connection (**waiting for a communication assignment from the iPBX**, see lines 49-52 and 60-65, col. 17).

Regarding claim 23, Curry discloses that the wireless gateway system (see element 5, Figure 2) would control validation procedures (security is validated) by communicating with a home location register (HLR) associated with the handset (see lines 61-63, col. 10) to limit service to only the handsets authorized by the owner of the system (each packet communicating endpoint device is configured and arranged to establish communication with the unique internet-based private branch exchange only after security is validated with the unique internet-based private branch exchange, see lines 38-41, col. 10).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 2-4, 12-13, 19-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Curry in view of Gernert et al. (USP 6,600,734).

Regarding claims 2, 4, 12, 13, 19 & 20, Curry discloses that when a person initiates an outgoing communication from a handset to a destination, that is intended to route through the internet, the wireless gateway system (**internet-based private branch exchange**, see element 31, Figure 1) would formulate and transmit the query to the domain name server where the server replies the destination IP address and any associated information to the handset (**each of the packet-communicating end-point devices is further adapted to store an IP address, to store a unique code that identifies internet-based private branch exchange relative to the plurality of other packet-based servers**, see lines 24-32, 44-57, col. 9 and lines 7-15, col. 10). Curry further discloses that the identification of the handset would be sent to the PBX as a service request (**each of packet-communicating endpoint devices is adapted to store a MAC address and to communicate the unique Media Access Controller address to with the internet-based private branch exchange**, see lines 40-43, col. 17).

Curry does not explicitly show that this address is a MAC address and an IP address is adapted to store in the packet communicating endpoint devices.

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However, Gernert discloses a mobile unit in a wireless cellular network communicates with the associated access point using a MAC address, and with other units using an IP network address (see lines 51-62, col. 15). Therefore, claims 2, 4, 12, 13, 20 are rejected as being unpatentable under 35 U.S.C. §103(a) over the reference '880 in view of Gernert.

Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to modify wireless communications system of Curry with the mobile unit of Gernert such that acceptable routing path is defined in terms of an optimally minimum number of route connections identified over a predetermined period of time such as the optimal route determined at a predetermined time interval taught by Shaffer. The motivation to do so is to measure verify an alternate route is more optimal than the initial route because the network control unit will then request a new route reservation from the source node to the end node and rereoute data over this new alternate route. The motivation to do so is to allow a mobile unit in a wireless cellular network to communicate with the associated access point using a MAC address, and with other mobile units using an IP network address (see lines 51-62, col. 15) because the MAC address is used as the mobile unit identification information for authenticating itself and for validating user privileges to the base station, and the IP address is used as addressing mode to locate the destination address of the destination mobile unit.

Regarding claim 3, Curry discloses a localized wireless gateway system (**internet-based private branch exchange**, see element 5, Figure 2), including a PBX (see element 65, Figure 2), which provides at least the interexchange portion of telephone

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calls for wireless handsets (a **telephony device**, see lines 20-22 and 27-28, col. 5) utilizing a public packet switched data network such as the Internet (see lines 11-14, col. 1).

6. **Claims 6-7, 15 & 21** are rejected under 35 U.S.C. 103(a) as being unpatentable over Curry in view of Shaffer et al. (USP 6,236,642).

Regarding claims 6, 15 & 21, Curry discloses that a router determines how many hops are the minimum to get to the destination (**acceptable routing path is defined in terms of an optimally minimum number of routing connections**, see lines 21-24, col. 8). Curry does not explicitly disclose the optimal path is determined over a predetermined period of time.

However, Shaffer discloses a data routing system for dynamically optimizing bandwidth (see lines 37-39, col. 2) is used to determine whether route is still optimal at a predetermined time interval (see lines 23-42, col. 4).

Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to modify the wireless communications network of Curry with the routing method of Shaffer such that route is verified to check whether it is still optimal at a predetermined time interval such the optimal route determination taught by Shaffer. The motivation to do so is to measure verify an alternate route is more optimal than the initial route because the network control unit will then request a new route reservation from the source node to the end node and reroute data over this new alternate route.

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Regarding claim 7, Curry discloses an acceptable routing path for an outgoing call is established from a wireless handset (**endpoint device**, see element 1, Figures 1 & 2) to a voice capable PC (see element 21, Figure 1) by having the access manager of the wireless gateway system (**internet-based PBX, one of the servers**, see lines 20-26, col. 18) instruct the PBX (see element 65, Figure 2) to connect the call to the packet service gateway. Having received the call related information such as the calling party number (**a code uniquely associated with the endpoint device**) supplied to the packet service gateway (**capture**) from the PBX, the packet service gateway initiates communication via the Internet and transmits a translation query to a domain name server where the server obtains the destination IP address and formulates a response message back to the packet service gateway and finally to the PC indicating a call to that destination terminal (see lines 26-31, col. 18). The packet service gateway then receives a notification message (**acknowledgment**) from the message and transmits a tone signal back the wireless handset via the PBX, base station, and RPCU, indicating the call acknowledgement (**capture acknowledgement from one of the servers that has been preassigned to communicate with a code uniquely associated with the endpoint device**, see lines 1-11, col. 19).

7. **Claims 10 & 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Curry in view of Voit (US Patent 6,104,711).

Curry discloses all the aspects of the claimed invention as set forth in the above rejections of claim 9 and claim 11 respectively, except fails to disclose the selection of one of the search processes is a function of one or more of the followings: preassigned

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priority list, cost, time of day, location of target communication destination, a category of service providers, and a type of media. However, Voit discloses conditional analysis utilizes a variety of criteria such as the time (see lines 29-33, col. 9). Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to modify the selection of the search processes of Curry such that one of the selection criteria is time. The motivation to do so is to measure the select a different server for the terminal devices to communicate with based on different time of day because one server can provide communications for terminal devices as a standby while another server is scheduled to perform maintenance.

Response to Arguments

8. Applicant's arguments filed on June 1, 2004 have been fully considered but they are not persuasive.

In response to applicant's argument that the reference '880 fails to show the limitation "establishing packet-based communications between the packet-communicating endpoint device and the internet-based private branch exchange," as recited in claims 1, 11, 17, 18, 22 (22 previously numbered as 23), it is noted that this limitation is disclosed by Bales et al. (USP 5,182,750) in that ISDN BRI links are being used in a switching node (see Fig. 1) and packetized channel is established between a node processor and a remote switch (see Fig. 3) by establishing a LAPD packet protocol on a B-channel of BRI links (see lines 16-20, col. 21 and elements 146, 157, Fig. 1). This explicitly shows that the ISDN BRI links support packet transmission. Furthermore, Chawla et al. (USP 6,496,700) discloses a wireless communication system where packet

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transmission and reception take place between mobile wireless terminals and base stations (see lines 23-34, col. 22). As a result, the communications between the wireless handsets 1 and ISDN PBX 65 of the reference '880 are indeed packet-based communications and the assertion that the wireless handsets 1 are packet-communicating endpoint devices is also correct. Since ISDN BRI links support packet transmission, as described above, the conversion performed between data communicated over the BRI line and data in a TCP/IP format by the packet service gateway just means that data packets are converted from one packet format to another packet format. Thus, packet-based communications are not limited to those beyond the gateway 69, but in fact are performed between the wireless handsets 1 and PBX and between PBX and the Internet. Therefore, claims 1, 11, 17, 18, 22 (22 previously numbered as 23) stand rejected as being unpatentable under 35 U.S.C. 102(e) over the reference '880.

In response to applicant's argument that the reference '880 fails to show the limitation "packet-communicating device is further adapted to store both an IP address and a Media Access Controller address," as recited in claims 2-4, 12-13, 19-20 (19-20 previously numbered as 20-21), it is noted that this limitation is disclosed by Gernert et al. (USP 6,600,734) in that a mobile unit in a wireless cellular network communicates with the associated access point using a MAC address, and with other mobile units using an IP network address (see lines 51-62, col. 15). Therefore, a new ground of rejection is made to claims 2-4, 12-13, 19-20 (19-20 previously numbered as 20-21) as being unpatentable under 35 U.S.C. §103(a) over the reference '880 in view of Gernert.

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In response to applicant's argument that the reference '880 fails to show the well-known teaching in regards to the limitation "optimally minimum number of routing connections identified over a predetermined period of time," as recited in claims 6-7, 15, 21 (21 previously numbered as 22), it is noted that this limitation is disclosed by Shaffer et al. (USP 6,236,642) in that a data routing system for dynamically optimizing bandwidth (see lines 37-39, col. 2) is used to determine whether route is still optimal at a predetermined time interval (see lines 23-42, col. 4). Therefore, claims 6, 7, 15, 21 (21 previously numbered as 22) are rejected as being unpatentable under 35 U.S.C. §103(a) over the reference '880 in view of Shaffer.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the

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advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Mew whose telephone number is 703-305-5300.

The examiner can normally be reached on 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 703-305-4366. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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